



Negative Resistance Generator

GRV03

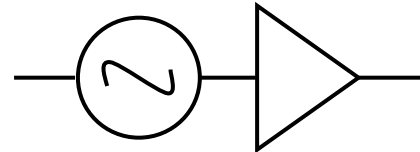
Description

The **GRV03** is 14 to 21 GHz: broadband Negative Resistance Generator designed using 2 um HBT Technology. The GRV03 consumes only 4 mA current and the die area is very small.

The phase noise of the oscillator can be improved using external high Q resonator.

The buffer Amplifier is followed by the VCO to improve the output power.

Functional Diagram



Applications.

- Digital Radio
- SATCOM
- VSAT
- Multipoint Radios
- LMDS (Local Multipoint Distribution Services)

Key Features

- Broadband Operation
- High Frequency
- High Performance
- Operating Temperature 0 to 85 °C Range

Electrical Specification

Conditions: Vcc = 4.2 V & TA=25 °C

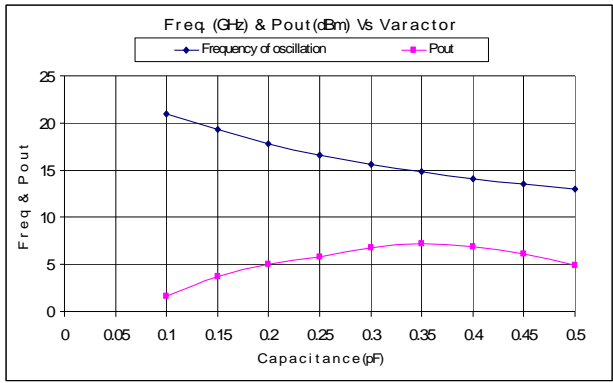
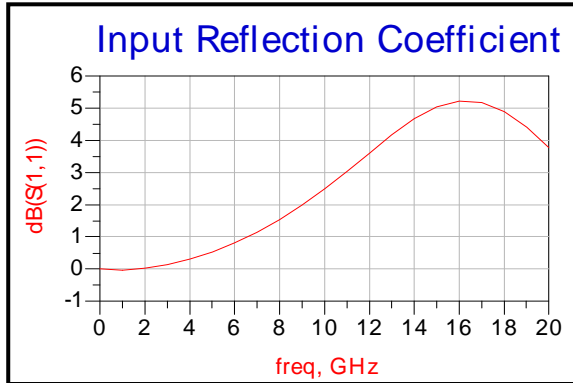
Parameter	Min	Typical	Max	Units
Frequency Range	14.0		21.0	GHz
Pout	2		7	dBm
Phase Noise @ 15 GHz Offset @ 100kHz @ 1 MHz	-107.4 -112.9			dBc dBc
Phase Noise @ 21 GHz Offset @ 100kHz @ 1 MHz	-74 -97			dBc dBc
Input Reflection Coefficient @ 15 GHz @ 20 GHz		5 4		dB dB
Operating Current		3.5		mA
Supply voltage		4.2		V



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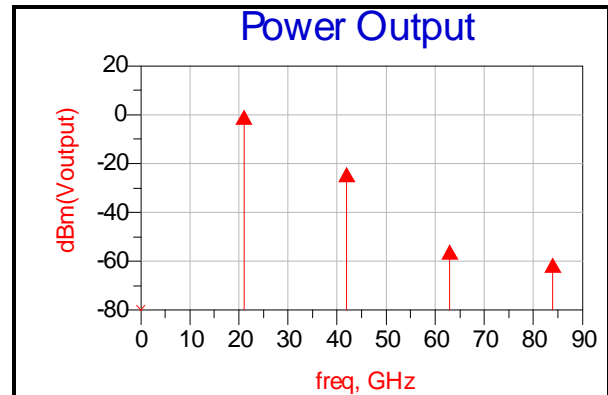
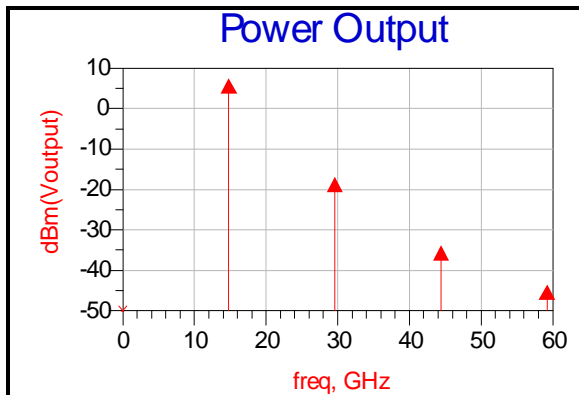
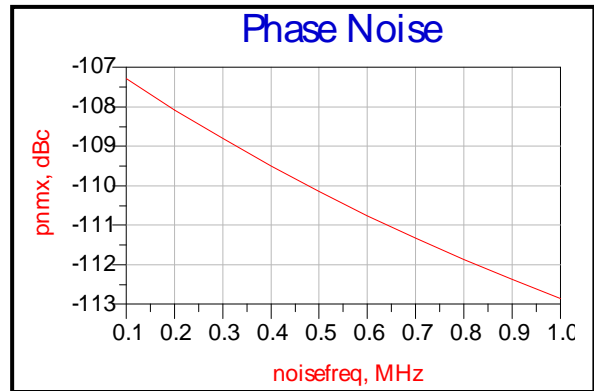
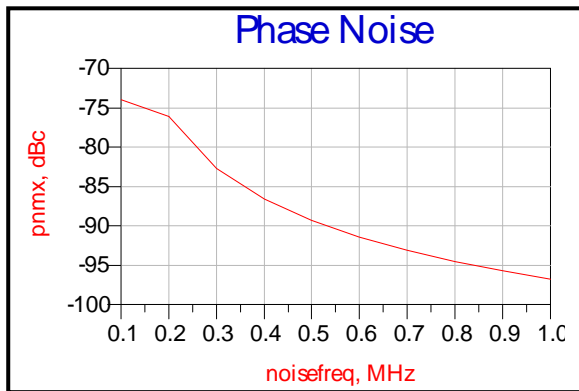
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Simulated Results



Varactor capacitance= 0.1 pF

Varactor capacitance= 0.35 pF





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